# FETTER'S THEORY OF VALUE.

## I.

Among those who of late have been attempting to give consistency to the main body of economic principles, Professor F. A. Fetter occupies a unique position. Most of those who have felt the lack of harmony among the different elements of current economic doctrine, and who have not in despair abandoned theoretical discussion, have sought for consistency in the eclectic union of the Austrian doctrines with the older classical theory. The cry has been that the Austrians went too far in the direction of a purely psychic explanation of economic phenomena in terms of utility, and that the whole truth in regard to value must now be sought in a return towards the objective cost explanation of the older economists.

With this conception of the situation Professor Fetter has taken direct issue. A decade of critical reading and positive thought appears to have brought him to the point of view that the Austrians were, after all, on the way towards a true and consistent interpretation of economic activity. They failed in this, not because they had departed too far from the classical preconceptions, but because they could not wholly emancipate themselves from the older economic notions. With the fabric of their unique thought well on towards successful completion, they destroyed its consistency by weaving into it elements from the classical theory.

Imbued with this idea, Professor Fetter has considered it wise to take up again the initial conceptions of the Austrians, and to attempt to push their characteristic line of thought to its just and ultimate conclusions. In harmony with them, he has, therefore, looked upon economics as

essentially the study of value, and has viewed all economic phenomena as the concrete expression, under varied circumstances, of one uniform theory of value. He has attempted to carry through to success the Austrian search after a uniform measure for estimating the value of commodities and the means of production, and to attain the Austrian ideal of bridging over the gap between the theory of value and the theory of distribution. His work, none the less, bears the stamp of independent and positive thought. Starting from certain fundamental value conceptions, which merely happen to be Austrian, he has made the whole theory of economics to appear as an ever-widening application of these conceptions to the explanation of economic phenomena,—each successive explanation resting upon its predecessor, all forming one complex expression of a single value concept, the final result being but the logical development of the first simple premises.[1]

## II.

The interpretation of Professor Fetter's work must begin with the exposition of his fundamental notions in regard to value and value determinants. If we analyze the structure which he has reared, we find that it rests upon these four fundamental concepts: (1) psychic Income, (2) diminishing marginal utility, (3) diminishing returns, and (4) what for want of a better term he has called Time Value. It will be well to consider each of these notions briefly.

1. *Psychic Income.*—This is the central and vital con-

[1] In this paper no attempt is made to follow the order of exposition found in Professor Fetter's recently published *Principles of Economics* (New York: The Century Company, 1904), nor to confine the discussion to points specifically treated therein. Several important features of the theory which here receive emphasis appear only by implication in the text. It is Professor Fetter's theory, not his book, which is under discussion. Moreover, the analytical character of this paper must not lead the reader to assume that Professor Fetter's method is "deductive" as opposed to "inductive."

cept in the theory of value which we are discussing. The meaning of the phrase and the proof of its essential significance can be given in a few words. All are agreed that value rests ultimately on usefulness. Usefulness consists in the power of gratifying human wants. But the gratification of wants is a psychic phenomenon. Value, therefore, rests on feeling; is psychic in its origin. And all those things and actions which are felt to have some causal relation to gratifications have value to man. Further, durable goods, which may be looked upon as the objective source of psychic incomes, have a value which is simply the totality of their uses, or incomes. The value of all goods, therefore, rests upon the fact that they yield incomes measured in psychic terms. In brief, then, psychic income is the sole source or basis of value. Simple and axiomatic as this proposition appears, much that is erroneous in the discussion of the more complex problems of value has come from failing to hold to it.

Psychic income being the source or basis of value, we have to ask the question, According to what laws do goods yield their psychic income? The answer to this question is found in the three remaining fundamental concepts of Professor Fetter's theory.

2. *Diminishing Marginal Utility.*—The law of marginal utility as announced by the Austrian economists has become the common property of economic students. Professor Fetter's conception of it does not differ essentially from that currently held, nor does he depart from Austrian precedent in the use which he makes of it in the solution of the value problem. It will suffice at this point, therefore, merely to state the law as it has been formulated by him: "As the amount of any good increases, after a certain point the gratification that the added portions afford decreases."

3. *Diminishing Returns.*—The familiar law of diminish-

ing returns receives a new formulation and a wider application at the hands of Professor Fetter. He departs from English and Austrian precedent, taking a position more nearly like that of Professor Clark and other recent American critics of the orthodox position. All permanent goods whatsoever, according to his view, yield their fruits or uses subject to the law of diminishing returns; and he characterizes the orthodox distinction between land and other use-bearers, based on the supposition that land alone is subject to this law, as the outgrowth of peculiar industrial and social conditions of the Middle Ages, as an historical distinction without logical foundation.

The argument in proof of the universal applicability of the law of diminishing returns is not unfamiliar. It may be well, however, to state it briefly.

An income series is never actually derived from one productive factor, but always from a combination of factors. But in any field of industry there is always a best possible adjustment of industrial forces,—an adjustment in every industrial unit which yields the maximum product for a given outlay; a point where the addition of further portions of any single factor will indeed increase the yield, but at a diminishing rate compared with the outlay. That is, the law of diminishing returns applies to every combination of productive forces. However, if we are bound to impute a portion of the yield from any combination of industrial forces to a single factor, it is not difficult to show that no general reason exists for imputing diminishing returns to one factor rather than to any other. The factor to which the return is imputed in any combination is always the fixed one. (Compare the orthodox statement of the law of diminishing returns.) But in any industrial unit,—a cotton-mill, for example,—if we suppose each factor in turn to be fixed while the others increase, it is readily seen that diminishing returns must be im-

puted to each in succession. If machinery, for example, be taken as the fixed unit, a point will be reached where further additions of labor, materials, and land, will result in a diminishing return per unit of outlay. The law of diminishing returns, therefore, is of universal application.

4. *Time Value.*—It has been generally recognized that only in the simplest cases is valuation a process of comparison of gratifications equi-distant in time from the evaluating subject. The significance of this fact was not understood by the older economic writers. Of late, however, a growing conviction has appeared that time is of the essence of the more complex value problems. Professor Fetter has attempted to give systematic, scientific expression to this conviction. Throughout his discussion of value he proceeds on the assumption that it is a universal law of the human constitution that the postponement of gratifications decreases the estimate which is placed upon their extent. For example, quite apart from the risk involved, no one derives the same prospective gratification from the yield of an income-bearer ten years hence as from the yield of the current year. No one, therefore, will place a present value upon the prospective yield equal to the value of the same objective yield in hand. The significance of this fact is plain. All economic goods are valued for the psychic incomes wrapped up in them. The value which is placed upon the possession or use of goods, therefore, varies not merely with the objective amount of their derivative incomes, but with the time at which the incomes are available to the valuer. In short, every man discounts future psychic incomes to their present worth, and, therefore, time value, or the difference in present worth of the same income at two different periods of time, is an essential factor in determining the value of goods under all but the simplest circumstances.

## III.

With the aid of these fundamental concepts let us follow Professor Fetter in his solution of the universal problem of value as it unfolds itself to the individual and in the history of industrial society. The earliest and simplest conception of value arises in connection with the immediate gratification of wants. Value is first attributed or imputed to present income or to goods which are capable of yielding their entire income at any specified time, as, for example, the food supply of the primitive hunter or fisher. The first economic problem, then, is the valuation of immediately consumable or consumption goods, on the basis of which must be built up the value of indirect or productive agents.

What, then, determines the value attached to consumption goods? Obviously, the valuation of a good is merely the mode of expressing the importance of the thing to the welfare of the valuer. Logically and historically, the value of consumption goods first appears as an individual subjective estimate, attached to the gratifications afforded by them. The first assumption, therefore, would be that the estimate of value coincides with the capacity of the goods for gratifying wants. This, however, is not the case. The individual attaches no value to a good until he feels that the gratification of some want is actually dependent upon the good. That is, the subjective value of the good is measured by the felt dependence of the individual upon it for some specific want gratification. Now this felt dependence is measured by the loss of want gratification which the individual would suffer if he were deprived of the unit of the good in question, and this loss would obviously be the least, or marginal, want gratification which any unit of the good would be used to supply. In brief,

then, the individual will measure the value of the good by its marginal use or utility. This is the immediate explanation of subjective valuation.

But what determines the marginal utility of the good by which its subjective value is measured? Unquestionably, the marginal utility is determined by scarcity, in conjunction with the law of diminishing marginal utilities. According to the law of marginal utilities, added units of a good, after a certain point is reached, afford to the individual a constantly diminishing quantum of gratification. Any good in relation to any subject has a want-gratifying or demand schedule, which may be represented graphically by a utility curve which descends as the number of units of the good increases. The marginal utility or value of the good will then be the point on this curve which represents the utility of the last unit of good available for use. This point upon the utility curve is obviously fixed by the relative scarcity of the good. The subjective value, then, in the first instance is determined by marginal utility, and marginal utility in turn by the law of diminishing utility and by scarcity. In this explanation there is, of course, nothing novel. We have merely arrived at the familiar conclusions of the Austrians.

The second step in the solution of the value problem is from subjective to objective exchange value or market price. Once the problem of subjective valuation is solved, this step involves no serious difficulty. Market price rests on, and is determined by, subjective valuations. It does not go for its explanation behind these valuations; but, in assuming them in the market, it assumes the conditions of utility and scarcity, or utility and cost, which underlie them. The simple problem of market values, then, is how, on the basis of varying subjective valuations, a single market price is attained. On the solution of this problem we need not dwell. It has been made familiar

to every student of economics through the work of the Austrian school. It will be sufficient here to emphasize the fact often overlooked, that, although the competitors in the market consider only questions of utility,—the utility of the good to be sacrificed and the utility of the good to be acquired,—it is a mistake to affirm that the solution is one-sided, taking into consideration only the utility or demand side of the problem. Cost is not ignored: it merely plays its part earlier in the drama in helping, through the element of relative scarcity, to determine what subjective estimates shall be in the market, as the basis of the market process. The relation of cost to value, however, will be more fully discussed in a later portion of this paper.

It is at this point that Professor Fetter breaks distinctly and finally with the Austrian economists, for it is here that they wavered, and, instead of pushing on to the ultimate conclusions demanded by these premises, returned to the classical notions of Rent, Capital, and Interest,—notions altogether inconsistent with the theory thus far developed. From this point, therefore, the theory under consideration proceeds along independent lines.

We have solved, then, according to Professor Fetter's view, the primitive problem of value,—the value of immediately consumable goods. But, in doing this, we have already accomplished more. This will be seen by considering the real place of consumption goods in the industrial process. They are, in fact, income immediately derived from other and relatively permanent goods or from personal services. They are the momently appearing fruits of indirect or productive agents, given to us sometimes in the form of the material bearers of gratifications and sometimes more directly in the form of gratifications themselves, but in either case measured by the psychic income they represent. Such fruits, when derived from produc-

tive agents or factors in the utilization of which the law of diminishing returns is encountered, have always been termed by both practical men and economists "rents." But we have seen that Professor Fetter regards diminishing returns as a universal productive phenomenon. Then all consumption goods, in their character of immediate fruits, or incomes, from relatively permanent agents of production, are in the nature of rents. In brief, rent is a universal productive phenomenon: "it is the value of the usufruct as distinguished from the value of the use-bearer, or thing itself." Our discussion of the value of consumption goods has then brought us logically to the third historical step in the solution of the universal value problem, —the value of the rent, or usufruct, of permanent productive agents.

At first blush the rent problem might appear to be solved, so far as economics is concerned, in the determination of the value of the rent units; *i.e.*, consumption goods. But the rent problem is not so simple as this. It is complicated by the fact that no agent of production independently yields rents, but economic fruits are always the result of the co-operation of two or more productive agents. Our problem, then, requires us to determine the immediate fruits to be attributed to a productive agent. This is called by Wieser the problem of imputation. The solution of this problem has been made comparatively familiar to American readers by such men as Professor Clark. Therefore, the briefest statement of it will answer the purposes of this paper.

It is conceived that in any given condition of industry there is always a least economic use to which a productive agent can be put. There is, economically speaking, a marginal use for the agent. Now all along the line of industrial effort it is supposed that an agent will be utilized down to this margin. By the time-honored "dose"

method, so familiar to students of classical economics, the productivity, or rent, of the agent on the margin of utilization can be determined. But, economically speaking, this marginal rent, or productivity, must be the value of the rent of any unit of the agent. For since, if any unit of the agent were lost, the unit at the margin would be substituted in its place, and thus only the marginal product would be lost, the felt dependence upon any unit of the agent will be the extent of its marginal product. All indirect or productive goods, then, yield rent; and the economic rent of any agent of production is equal to the value of its marginal fruits,—in brief, to its marginal productivity.[1]

This solution of the rent problem carries with it by implication the general solution of the problems of wages and profits. Wages and profits are, like rents, the usufruct of relatively permanent agents of production. The sole logical distinction between them is derived from a distinction between the nature of different productive agents. By common consent these have been divided into two general classes, material goods and personal services. And custom has dictated that the term "rent" should be applied to the immediate fruits of material agents, and the term "wages and profits" to the immediate fruits of personal services. Professor Fetter has retained this distinction because of a desire to emphasize the modern conception of man as primarily the end of the economic process rather than, as in the older view, merely an agent in the productive process carried on by the employing class. But, if our analysis of the economic problem is correct thus far, rent and wages are but two species of one genus,—immediate income, or usufruct,—and must, as such, have their value governed by one general law.

[1] In this solution of the problem all non-substitutable grades of agents must of course be reckoned as different agents. The rent of the different grades will be measured up from the rent of the marginal grade.

Economic wages, like economic rents, are the product of the marginal unit of the agent, or, in brief, are determined by marginal productivity.[1] As profits must be regarded as the income from a special grade of personal service, they are obviously determined by the same general law.

We have now solved in all its essential bearings the problem of the value of the fruits yielded by productive agents. We assumed in the beginning that goods have value only in so far as they yield incomes—gratifications—or are seen to be essential to the yielding of psychic incomes. It is obvious, then, that the value of indirect or production goods is derived solely from the value of the consumption goods which they yield or to the yielding of which they are necessary. From the value of the fruits, or incomes, to the value of the use, or income-bearer, is, therefore, the next logical step in the solution of the general value problem. This is the problem of capitalization.

Here, again, Professor Fetter is altogether at odds with the Austrians. Böhm-Bawerk, indeed, saw that capital value was a sum of income values, but he failed to make use of this fact. Many times he almost brushed against the correct theory of capitalization, but each time he turned aside, seemingly blinded by precedent. Professor Fetter takes up the line of thought abandoned by the Austrians, and pushes it independently to its just conclusions. Let us follow him, then, carefully in his solution, first, of the problem of capitalization, and then of the related problem of interest.

Capitalization is the process by which a valuation is placed upon a relatively permanent economic good, or bearer of uses. Or, more broadly, it is the determination of the value of a series of prospective incomes. The essential conditions of this problem, as will be apparent

[1] Space forbids the extension of the argument to the discussion of the distinction between economic rent and wages and contract rent and wages. In regard to these matters there is nothing novel in Professor Fetter's work.

to any one who has followed closely the reasoning thus far, are three: (1) the value of the capital good is derived from the value of the fruits, or incomes, wrapped up in it; (2) these fruits, or incomes, are ultimately psychic in their nature; and (3) these psychic incomes on which rests the capital value of the permanent good are not present, but prospective. In essence, then, the problem of capitalization is the determination of the present worth of a series of prospective psychic incomes. Here is introduced into the theory of value the fourth of Professor Fetter's fundamental concepts,—the concept of time value,—the term applied to denote the difference in value attributed to a thing at two points of time as judged by the valuing subject from the same moment.

The discounting of future incomes, or gratifications, for time is a universal psychological phenomenon. To no man does the gratification of any want at a future time appear to be as important as its gratification immediately, provided, of course, that all other circumstances are identical. Different individuals discount the future at different rates, but all do discount future gratifications; and, therefore, all do attach a smaller present value to future incomes than to the same incomes in hand. It follows that the present value of a series of incomes stretching over the future is the discounted sum of the incomes. And since, as we have said, the value of any permanent good is derived solely from the series of incomes that it yields, its capital value is the sum of its anticipated incomes, or rents, discounted to their present worth.

The process of capitalization thus described has its subjective and its objective exchange aspects. Each individual on the basis of the rents that he anticipates from it, and on the basis of his own individual discount rate, fixes for himself the value of any given (capital) good. On the basis of the varying subjective valuations of the

individuals in the market, the objective exchange value of each (capital) good is determined by the same process as that which operates to determine the market price of consumption goods. All permanent goods, or use-bearers, whose value is determined in this manner, are (capital) goods. The terminology is consistent with the untechnical language of the market, and is historically tenable. And since all permanent goods, or use-bearers, whatever have their value actually fixed in this manner, the term "capital" is rightly applied without distinction to all productive agents.

We have now shown an unbroken chain of causation extending from the primitive economic problem—the subjective valuation of immediately consumable goods—through rent to the capital value of relatively permanent goods, or productive agents. To make the sequence complete as an interpretation in terms of value of the economic world, we have to solve one problem more,—the problem of interest. Interest is a contractual payment for a money loan as a means of securing the use of goods. This being the case, logically and historically, the interest problem can only arise subsequent to the process of capitalization. What, then, is its nature?

As stated earlier, there has appeared of late a growing conviction that time is of the essence of the problem of interest. The transaction out of which interest arises, as it typically appears, is the giving up of a capital sum for a term of months or years, at the end of which term the same capital sum is returned. Since a capital sum represents any goods in the market of equal value, this transaction involves on the part of the lender a postponement of a sum of psychic incomes—gratifications—from a present to a definite future date. To the borrower, on the other hand, the transaction gives a sum of present enjoyments in exchange for the same sum at a future date. To be

sure, the lender might not have actually made use of the capital sum for present consumption purposes, and the borrower may not make this use of the sum obtained; but the essential thing is that the lender has definitely foregone the possible present uses of his capital, and the borrower has obtained present control of it.

But now we have seen that the postponement of gratifications lessens them in prospect; *i.e.*, all future gratifications are discounted for time, in the mind of man, to their present worth. To both the lender and the borrower, then, the incomes, the gratifications wrapped up in the capital value, represent a less subjective value prospectively, at the end of the loan period, than at the moment of loaning. On account, then, of the presence of a time element in the transaction, the simple return of the capital sum in the future is not deemed an equivalent for the present grant of it. The lender will demand a premium for foregoing present control of the incomes represented by the capital sum, and the borrower will be willing to pay a premium for their present control. This premium reckoned as a percentage of the capital sum loaned is the interest charge.

Interest, then, arises from the difference between the present worth of the same capital sum, or series of gratifications, at two different periods. It results from the fact that the future uses in the goods purchased, in common with those of all other goods, have already been discounted in their price. It is a subsequent aspect of a series of time discounts wrapped up in the capital good. In other words, it is a contractual payment for the postponement of the present enjoyments represented by a capital sum, and it arises out of a psychological fact,—the fact that postponed gratifications are lessened in prospect. Or, again, it is the market expression of the varying rates at which future enjoyments have been

discounted to their present worth in the process of capitalization.

We reach, then, an explanation of interest on the basis of the fundamental principles already laid down. No new element has been introduced. Interest appears simply as a further harmonious unfolding of the law of value,—a final application of this law to the facts of industrial life.

## IV.

It may be well now to consider very briefly certain criticisms that have been advanced against this theory. It has been said (1) that it takes no account of cost as an essential and independent determinant of value; (2) that it is erroneous to attribute rent to all productive agents, since land and capital are in no wise taxonomically identical; (3) that the theory of interest here advanced leaves no place for the well-known effect of productivity upon income; and (4) that interest and rent are here practically identified. We shall consider these objections in order.

1. The justice of the statement that Professor Fetter takes no account of cost as an essential and independent determinant of value depends entirely on what is meant by cost. If the critics refer to money cost, he cannot and would not wish to deny their allegation. In harmony with the Austrians he regards money cost as reflected back from the value of the finished product. It coincides with the value of the product indeed, but because it is determined by that value. If, however, the critics refer to psychic cost, the pain and sacrifice involved in the production of goods, they will find on closer inspection that Professor Fetter's theory makes cost practically co-ordinate with utility as an independent determinant of value.[1]

[1] It is true that Professor Fetter has not formally presented in any of his published writings this explanation of the relationship between cost and value. Yet this relationship is clearly implied at various points in his recently published book, and has been frequently presented by him to his seminary. For the particular formulation here given, however, the writer of the present article is responsible.

It will be remembered that objective exchange value, or market price, rests upon subjective value. Subjective value coincides with marginal utility, while marginal utility is determined by two factors, the law of diminishing utility and scarcity. Given the utility, or demand schedule, of a commodity, and it is evident that its value will be determined by scarcity. What, then, determines scarcity? Here we introduce into the problem of value the element of cost.

Economic goods, the means of gratifying wants, must be sought by man in nature,—in his objective environment. When goods are scarce, it means that nature yields them grudgingly relative to human wants. To secure these goods in amounts commensurate with wants, man must manipulate his natural environment. To secure gratifications, he must devote his time to contriving how to make nature more fruitful. He must put forth muscular exertion. He must bring together and dedicate to the production of the gratifications desired other goods, other want-gratifiers. All this involves negative gratification, or psychic cost. For, while thought and effort are at times themselves immediate sources of gratification, they become, when strenuous or long continued, irksome and painful. Thus it may be said that all production of economic goods—psychic income—involves sacrifice, psychic cost. How, then, does this cost affect value?

We have seen that the psychic income afforded by any good is governed by the universal law of diminishing utility. We now see that the psychic cost involved in acquiring any good, in general, obeys the law of diminishing returns. We know, moreover, that it is man's nature to produce goods so long as the utility secured in the last unit is greater than the cost involved. The amount of any good, then, will, in general, be determined by the action of the two laws, diminishing utility and diminish-

ing returns. Each added unit of any good produced will have a lower use and, therefore, a lower utility, while, after a certain point is reached, each added unit will be produced at greater sacrifice, or cost. The cost and utility will then gradually approach until a point is reached where the production of a further unit would not afford utilities greater than the disutilities, or cost, involved. Here production will cease, and this point of balancing of utility and cost will determine the scarcity of the good in question. Moreover, we know that man seeks the greatest utility for the least cost. He will therefore, at any moment, produce that good whose marginal utility, under the circumstances prevailing, most greatly exceeds the marginal cost. Thus, throughout the whole field of industry, man will tend to produce all goods to the point where cost tends to balance utility, and therefore the relative quantity or degree of scarcity of each good will be the resultant of its utility, or demand schedule, and those objective conditions which determine, together with the constitution of man, its supply schedule; *i.e.*, which determine the sacrifice that must be undergone in its attainment.

Thus we are brought, so far as economics is concerned, to an explanation of value which ultimately makes cost an independent determinant co-ordinate with utility. Market or objective exchange value rests on subjective value. Subjective value is the dependence which man feels upon a good. This dependence is measured by the marginal gratification, or utility, afforded by the good. Marginal utility depends upon the law of diminishing utility as it applies to the individual valuer, in connection with the scarcity of the good. The scarcity of the good depends upon the law of diminishing returns as it applies to the individual good valued, in connection with the utility of the good, or, in brief, upon the balancing of

utilities and costs. But this is to be carefully noted: the balancing of utilities and costs is a cause twice removed from the value. This balancing determines the scarcity of the goods, not its value. Once produced,—the cost once past,—the good is valued by the individual solely for its marginal utility. If mistakes have been made in production,—if the cost, for example, has been unduly great,—the value of the good is not thereby directly affected. It is as always the felt dependence of the individual upon the good; *i.e.*, its marginal utility. Professor Fetter's theory of value, then, does not by any means ignore cost. It merely denies to cost a direct and immediate influence on the determination of value in the market. It fully recognizes the influence of cost on value through its effect on scarcity.

2. The second objection to Professor Fetter's theory turns on the question of the taxonomic identity of land and those other productive agents to which alone the term "capital" is usually applied. Rent may not be attributed to all productive agents, say the critics, since there is a profound economic distinction between land and other permanent goods. The orthodox grounds of this distinction, without the support of which it must be abandoned, are two assertions: namely, (1) that a special law governs production from land; and (2) that land, as distinguished from most other instruments of production, is incapable of increase. The first of these grounds of distinction has been sufficiently considered in the earlier portion of this paper, where it was shown that the law of diminishing returns is of universal application. The allegation of fixity in the supply of land can be refuted in a very few words.

It must, of course, be admitted that the physical amount of land is fixed. It is not, however, the physical amount, but the economic supply of land, that is of importance in

this discussion. In regard to the economic supply there is no essential distinction between land and any other productive agent. Like all other permanent goods, the scarcity of land is diminished at the expense of effort which tends to increase as the number of units produced increases. It may be that the expense of reducing the scarcity of land tends to increase more rapidly than the expense of combating the scarcity of many other agents. But this fact does not constitute a valid ground for placing land in a distinct class by itself. As a matter of fact, the economic supply of land, through the instrumentality of improved modes of transportation, irrigation, reclamation, and fertilization, has in the modern industrial era been increased as rapidly as most other forms of productive agents. The orthodox method of classifying productive agents is fallacious. The only classification possible is one on the basis of continuity. And, when such a classification is made, it will be found that, while some kinds of land lie at the upper end of the continuity series, other kinds are so interspersed among the so-called capital goods that any separation of land on legitimate grounds into a distinct class is impossible. If this statement be true, any distinction between land and other forms of capital is, so far as economic theory is concerned, unwarrantable.

3. Coming now to interest, is it true that the critics are right in declaring that the theory here enunciated leaves no place for the effect of productivity upon income? It is indeed true that in this view the interest *rate* is in no wise directly dependent upon productivity. But it does not follow that productivity—*i.e.*, the income from permanent goods—is left out of account in determining the amount of interest. The criticism arises from a failure to assimilate thoroughly the fundamental notion that capital value is the resultant of income, of productivity, and varies with the variation of income, of productivity.

When this conception is firmly grasped, the influence of productivity on interest is clearly seen.

The capital sum on which interest is paid is itself but the discounted sum of a series of prospective incomes. Changes in productivity, in prospective incomes, work their effect in changing capital value. But the process of capitalization is antecedent to the interest problem. The extent of the capitalized value of the series of productive incomes has nothing directly to do with the rate of discount of the gratifications wrapped up in that capital sum. This is a purely psychological matter. But, while the rate of interest remains the same throughout all changes in the productivity of a given good, it is equally evident that those changes affect the amount of interest paid, through affecting the capitalized value of the series of incomes which the good represents. As stated above, however, changes in productivity affect directly only capitalization. The interest problem arises subsequent to this process of capitalization, and assumes it.

4. Finally, does Professor Fetter identify rent and interest? The argument advanced by the critics seeks to prove this. Interest, they say, is paid out of income from produced goods; but Professor Fetter has practically asserted that the income from any class of goods is rent. Therefore, he has really wiped out the distinction between the two economic categories of interest and rent. It is true that interest is a species of income, and thus comes out of the goods that go to make up rent. But interest rests upon grounds quite distinct from those which govern the payment of rent, and its amount is determined by a principle altogether different from that which determines the amount of rent. Economic rent is simply the immediately arising incomes from an uncapitalized productive agent. Contract rent is but economic rent paid over under contract to the owner of the agent as it arises. The

amount of rent is governed directly by the productivity of the agent. Interest, on the other hand, is a market expression of the discount which rents as a prospective series undergo in the process of capitalization. It is a contractual rate paid because of the deterioration, in the market estimate, of prospective rents, due to the lapse of time. Surely there is here no identification of rent and interest. Indeed, one fails quite to appreciate the significance of the change in point of view taken in Professor Fetter's theory, if one continues to ally rent and interest as co-ordinate incomes. In his view the problems of rent and of capitalization are essentially different stages in the analysis of value.

Whether the further development of Professor Fetter's line of thought is destined to put a term, however brief, to the controversial discussion of the main taxonomic elements of economic theory, it is, of course, impossible to predict. This much, however, is certain: he has presented to economic students a system which, for logical consistency, is without precedent; a system which from the first fundamental conception advances without break to the end; a system through which with clearness there runs one essential chain of thought to which every specific problem is referred, and as successive links of which the problems of the value of consumption goods, rents, wages, and profits, the value of productive agents, and interest are successively solved. The logical sequence and harmonious symmetry of this work affords, at least, a strong presumption of its essential truth.

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